Fluoromethyl radical

Inchi: InChI=1S/CH2F/c1-2/h1H2
InchiKey: VUWZPRWSIVNGKG-UHFFFAOYSA-N
Formula: CH2F
SMILES: [CH2]F
Mol. weight [g/mol]: 33.02
CAS: 3744-29-4

Physical Properties

Property code	Value	Unit	Source
ea	0.25 ± 0.18	eV	NIST Webbook
gf	-184.89	kJ/mol	Joback Method
hf	-204.27	kJ/mol	Joback Method
hfus	3.11	kJ/mol	Joback Method
hvap	16.86	kJ/mol	Joback Method
ie	9.04 ± 0.01	eV	NIST Webbook
ie	9.22 ± 0.01	eV	NIST Webbook
ie	9.35	eV	NIST Webbook
ie	8.90	eV	NIST Webbook
ie	9.16 ± 0.02	eV	NIST Webbook
ie	8.90	eV	NIST Webbook
log10ws	-0.20		Crippen Method
logp	0.747		Crippen Method
mcvol	24.570	ml/mol	McGowan Method
pc	5782.94	kPa	Joback Method
tb	220.85	K	Joback Method
tc	360.84	K	Joback Method
tf	117.99	K	Joback Method
vc	0.101	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	23.69	J/mol×K	220.85	Joback Method
cpg	26.35	J/mol×K	244.18	Joback Method

cpg	28.82	J/mol×K	267.51	Joback Method
cpg	31.12	J/mol×K	290.84	Joback Method
cpg	33.25	J/mol×K	314.17	Joback Method
cpg	35.22	J/mol×K	337.51	Joback Method
cpg	37.05	J/mol×K	360.84	Joback Method

Sources

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C3744294&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Joback Method:	https://en.wikipedia.org/wiki/Joback_method

Legend

cpg:	Ideal gas heat capacity
ea:	Electron affinity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
hvap:	Enthalpy of vaporization at standard conditions
ie:	Ionization energy
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume